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ABSTRACT

This manual is part of a series dealing with skills and information needed by students in dental assisting. The individualized student materials are suitable for classroom, laboratory, or cooperative training programs. This student manual contains four units covering the following topics: dental anatomical terminology; tooth numbering systems; classification of caries and restorations; and charting symbols. For each unit, student learning objectives, new terms and definitions, and illustrated information sheets are provided. A bibliography completes the booklet. (KC)

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Dental Charting

Student's Manual

By

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and
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Published by

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Foreword

This publication, *Dental Charting*, is part of a series entitled *Dental Auxiliary Services*. Other volumes in the series are *Dental Chairside Technique* and *Dental Office Procedures*. Each title has two volumes, a student's manual and an instructor's guide.

These instructional materials are designed for students enrolled in dental assisting. The information included simulates the activities actually performed by the dental assistant. However, this basic knowledge will be a useful foundation for students who plan further study in any of the various areas of dental health.

Although the material is individualized, it should be used under the supervision of a coordinator or instructor. It can be used by both students who are learning dental assisting in the classroom only or by students in a cooperative training program.

Jack E. Robertson, Director
Center for Occupational Curriculum Development

Acknowledgments

The Center for Occupational Curriculum Development of The University of Texas at Austin gratefully acknowledges the cooperation of the following contributors for their help in supplying many of the charts and diagrams used in this series of publications:

- Colwell Company, Champaign, Illinois
- Professional Publishers, Palo Alto, California
- The University of Texas Health Science Center at Houston, Dental Branch

We also wish to acknowledge Dr. Jim Keeton, Director of Health Occupations Education, Texas Education Agency, Austin, Texas, for his advice, support, and suggestions concerning these volumes.

Objectives: *After completing this unit, you will be able to–*

1. *identify dental terms and definitions;*
2. *recognize and name the dental arches;*
3. *cite the differences among the anatomical structures of the oral cavity;*
4. *name the teeth in primary dentition;*
5. *name the teeth in permanent dentition;*
6. *cite the times of eruption of teeth;*
7. *label the quadrants of the oral cavity;*
8. *identify the parts of a tooth; and*
9. *name the surfaces of each kind of tooth.*

Unit
ONE
Dental Anatomical Terminology

New Terms and Definitions:

1. *anterior*–toward the front; incisors and cuspid teeth.
2. *apex*–the tip of the root of a tooth.
3. *apical foramen*–the hole for the passage of vessels or nerves at the apex of a tooth.
4. *cementum*–the thin layer of modified bone, covering the dentin on the root of a tooth.
5. *cervix*–the neck of the tooth.
6. *crown*–the visible part of the tooth.
7. *cusp*–a rounded elevation on the chewing surface of a tooth.
8. *dentition*–all the natural teeth in normal positions in the oral cavity.
9. distal surface–the surface of a tooth away from the midline of the arch.
10. *enamel*–the hard, white substance that forms a cover for the crown of a tooth–the hardest substance in the body.
11. *mandible*–the lower jaw.
12. *mandibular arch*–the teeth in the mandible (total of 16 teeth).
13. *maxilla*–the upper jaw.
14. *maxillary arch*–the teeth in the maxilla (total of 16 teeth).
15. *mesial surface*–the surface of a tooth closest to the midline of the arch.
16. *midline*–an imaginary line drawn through the middle of the head and face that divides it into identical halves.
17. *mixed dentition*–dentition made up of some primary teeth and some permanent teeth.
18. *mucosa (oral)*–the mucous membrane lining the oral cavity.
19. *occlusion*–the fitting together of maxillary and mandibular teeth.
20. *palate*–forms the roof of the mouth and is divided into the hard and soft palate.
21. *permanent dentition*–the second set of natural teeth; the 32 adult teeth that are designed to last a lifetime.
22. *posterior*–toward the back (bicuspid and molar teeth).
23. *primary (deciduous) dentition*–the first set of natural teeth; the 20 teeth that will be replaced by the permanent teeth (milk teeth, baby teeth).
24. *proximal surface*–surface of a tooth that is next to the neighboring tooth. Each tooth has two proximal surfaces, mesial and distal.
25. *quadrant*–one of the four regions of the mouth formed as the midline divides each arch into two identical halves.

26. rugae—wrinklelike folds of the palate mucosa located behind anterior teeth.
27. *uvula*—small, soft mass of tissue that hangs from the posterior edge of the soft palate.

It is necessary to learn the commonly used dental anatomical terms. You will use these terms in your daily work. Accurate use of terms is very important in dental charting.

The teeth as they are arranged in the upper and lower pairs are called the *dental arches*. The teeth in the upper jaw or *maxilla* make up the *maxillary arch*. The teeth in the lower jaw or *mandible* make up the *mandibular arch* (see fig. 1).

The most familiar part of the *oral cavity* or mouth is the opening, which is bounded by the lips and cheeks. The roof of the mouth is formed by the *palate*. The palate is divided into two areas: the hard palate and the soft palate. The hard palate is *anterior* (toward the front) and is formed by bone covered with tough, yet sensitive, *oral mucosa*. You can feel the hard palate by pressing your tongue behind the anterior teeth. The soft palate is *posterior* to (behind) the hard palate. It is composed chiefly of muscle tissue, and its posterior border hangs free. When you swallow, the palate moves backward and upward. This closes the nasopharynx. Thus, food and water enter the esophagus and are prevented from entering the nasal passages. The *rugae* are the wrinklelike folds of the palate mucosa. They are located behind the anterior teeth. The *uvula* is a small, soft mass of tissue that hangs from the posterior edge of the soft palate. It aids in swallowing and in speaking (see fig. 2).

Tooth buds begin to form during the fourth month of fetal life. At about six months of age, the *primary* teeth begin to erupt. By 2 years of age, all primary teeth should be in the working position. There are 10 maxillary and 10 mandibular teeth in primary dentition. These are incisors and molars. There are no bicuspids (see fig. 3).

The permanent teeth begin to erupt at about six. They are usually all in position by 18 to 21 years of age. There are 16 maxillary and 16 mandibular teeth, a total of 32 permanent teeth (see fig. 4).

Wide variations exist in the time that the teeth erupt. Table 1 gives the approximate ages for the eruption of primary and of permanent teeth.

For identification of teeth and charting purposes, the oral cavity (see fig. 5) is divided into four areas or *quadrants*. When

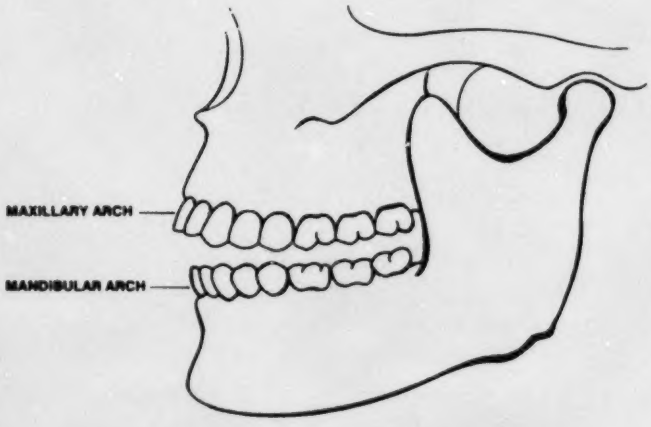


Figure 1. Dental Arches

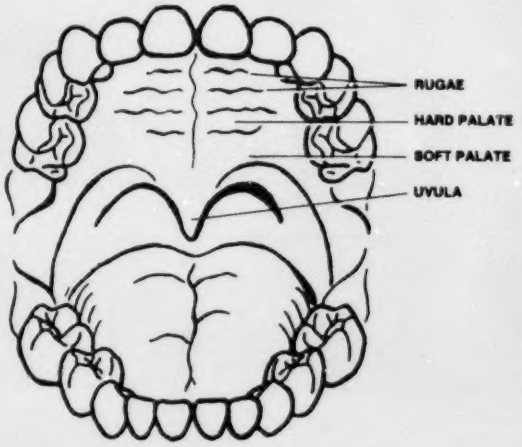


Figure 2. Palate

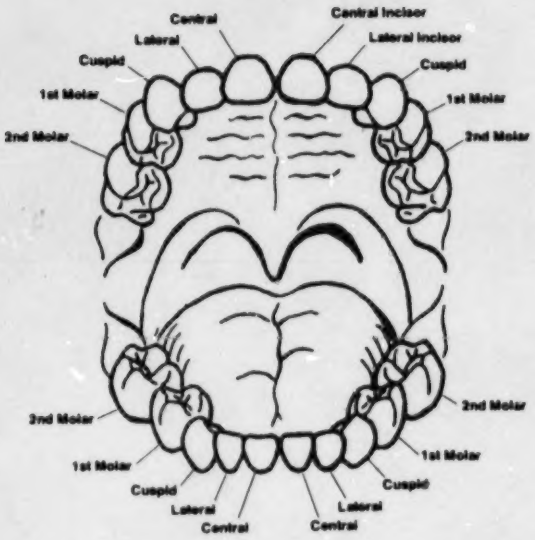


Figure 3. Primary Teeth

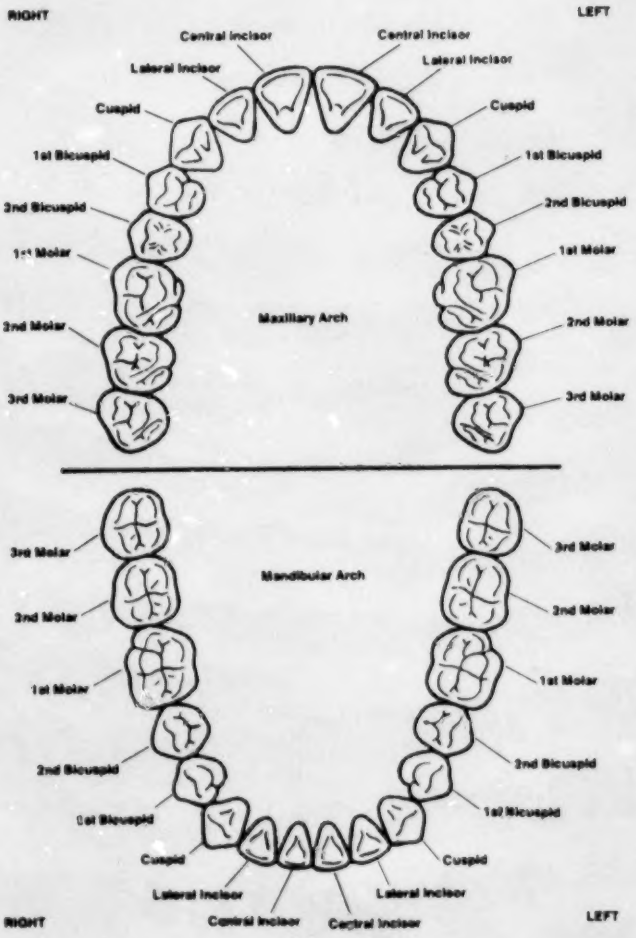


Figure 4. Identification of Permanent Dentition

Primary		
APPROXIMATE AGES AND MOST USUAL TIMES OF ERUPTION		
Primary Teeth	Normal Span in Mos.	Avg. Age in Mos.
Mandibular central incisor	3-9	6
Maxillary central incisor	5-9	7
Mandibular lateral incisor	5-9	7
Maxillary lateral incisor	7-11	9
Mandibular first molar	10-14	12
Maxillary first molar	12-16	14
Mandibular cuspid	13-18	16
Maxillary cuspid	15-20	18
Mandibular second molar	18-22	20
Maxillary second molar	22-26	24

Permanent		
APPROXIMATE AGES AND MOST USUAL TIMES OF ERUPTION		
Permanent Teeth	Normal Span in Yrs.	Avg. Age in Yrs.
Mandibular first molar	5-7	6
Maxillary first molar	5-7	6
Mandibular central incisor	5-7	6
Maxillary central incisor	6-8	7
Mandibular lateral incisor	6-8	7
Maxillary lateral incisor	7-9	8
Mandibular cuspid	8-10	9
Maxillary first bicuspid	9-11	10
Mandibular first bicuspid	9-12	10
Maxillary second bicuspid	9-12	10
Maxillary cuspid	10-12	11
Mandibular second bicuspid	10-12	11
Mandibular second molar	10-13	11
Maxillary second molar	11-13	12
Mandibular third molar	16-25	17
Maxillary third molar	16-25	17

Table 1. Tooth Eruption

looking at a dental chart, remember that you are looking into an open mouth facing you. Your right is the patient's left. And your left is the patient's right. The four quadrants are the *maxillary (upper) right quadrant, maxillary left quadrant, mandibular (lower) right quadrant,* and the *mandibular left quadrant.*

Despite the various types of teeth, all teeth have the same parts. The tip of the root of a tooth is called the *apex*. The nerve and blood supply enter and leave the tooth by means of a small opening at the apex. It is called the *apical foramen*.

The root or roots of the tooth are embedded in the jawbone. They are covered with a protective layer of modified bone, the *cementum*. This layer also helps to hold the tooth in place.

The neck of the tooth is called the *cervix*. It is the portion between the root and the crown. The enamel of the crown and the cementum of the root join at this narrow line in the tooth.

The visible part of the tooth is called the *crown*. It is covered with enamel (see figs. 6 and 7).

In charting teeth, it is important to identify the surfaces. The *mesial* surface is closest to the midline of the arch. The *distal* surface is farthest from the midline. The *lingual* surface is toward the tongue. The *buccal* surface is found only on posterior teeth and is toward the cheek. The *labial* surface is toward the lips.

The *facial* surface is a general term applied to either the buccal or labial surface. Usually, labial is used instead of facial for anterior teeth. Buccal is generally used instead of facial for posterior teeth.

The *occlusal* surface is the broad chewing surface of posterior teeth. The *incisal edge* is the term used for the thin, sharp edge of the anterior teeth, the incisors. It is referred to as an "edge" because it is not broad enough to be considered a true surface.

Figures 8-11 illustrate the various types of teeth and tooth surfaces.

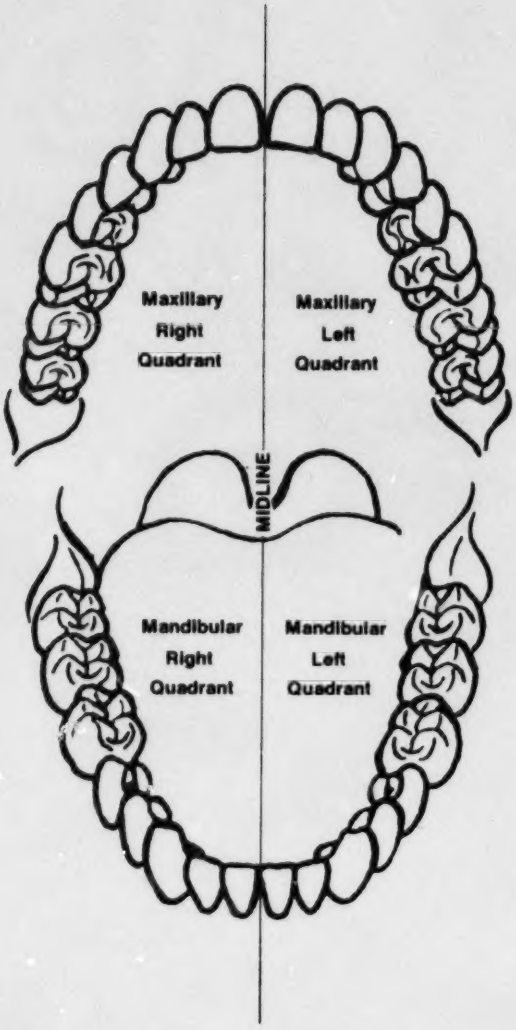


Figure 5. Oral Cavity Quadrants

When looking at a dental chart, remember that you are looking into an open mouth facing you. Your right is the patient's left, and your left is the patient's right.

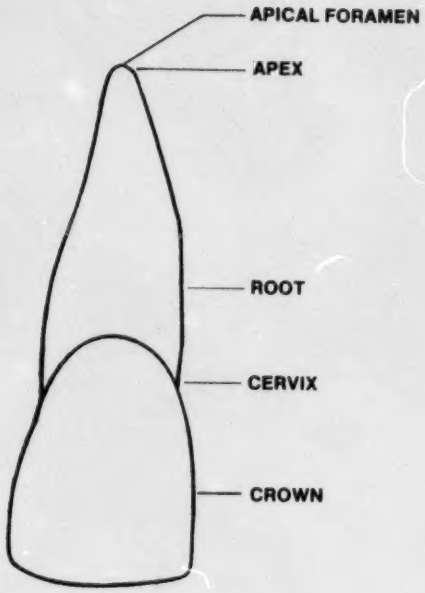


Figure 6. Incisor

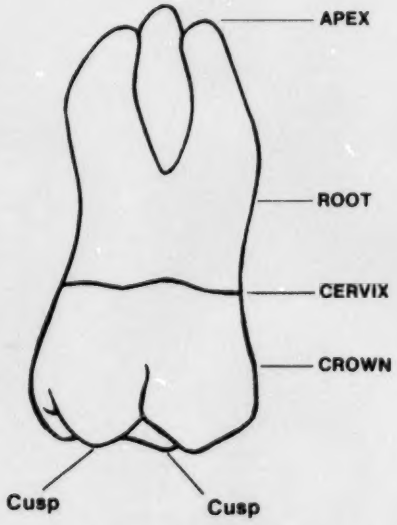


Figure 7. Molar

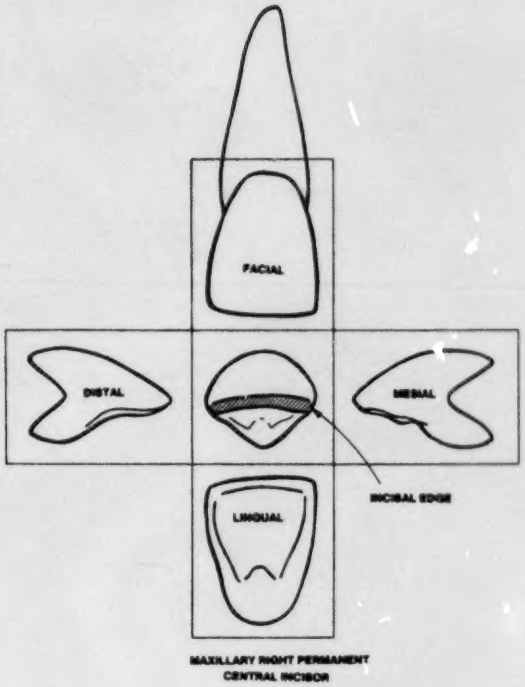


Figure 8. Surfaces of Incisors
Incisors are single-rooted anterior teeth. Examples are *laterals* and *centrals*.
Note: Mesial and distal surfaces are reversed when describing teeth on the left side of the mouth.

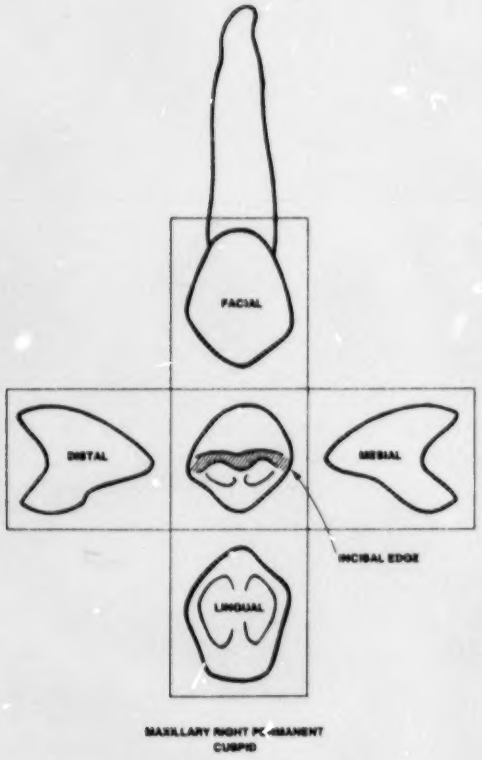


Figure 9. Surfaces of Cuspids
Cuspids are single-rooted anterior teeth known as *canines* or *eye teeth*.

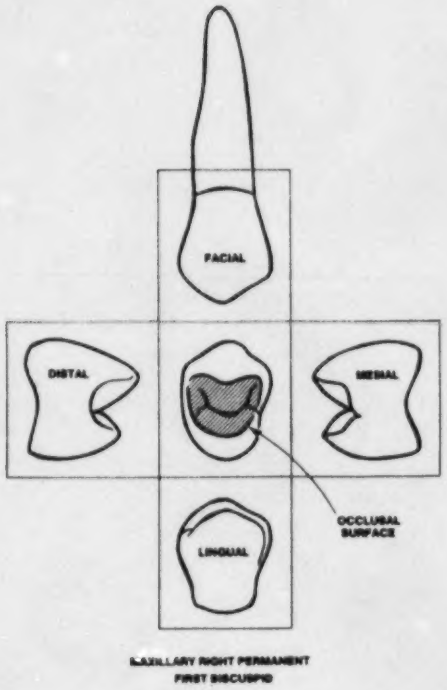


Figure 10. Surfaces of Bicuspids
Both maxillary first bicuspids have two roots. (The second root cannot be seen in this view.) All other bicuspids are single-rooted posterior teeth.

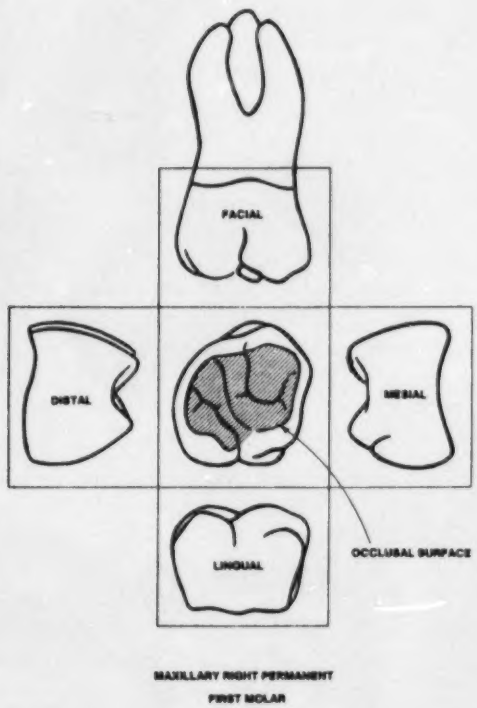


Figure 11. Surfaces of Molars
The molars are posterior teeth with a broad working surface. They are used for grinding more solid pieces of food. This requires the use of greater force. The *maxillary* molars each have 3 roots. The *mandibular* molars each have 2 roots.

Unit TWO

Tooth Numbering Systems

Objectives: *After completing this unit, you will be able to–*

1. *describe three tooth numbering systems;*
2. *identify any tooth according to the three numbering systems;*
3. *describe the differences between anatomic and geometric tooth diagrams; and*
4. *name and locate various tooth surfaces.*

During the first visit to the dentist, the patient will receive a complete dental examination. The dentist will look at all the soft tissues of the mouth as well as each tooth. During the examination, the doctor will dictate the conditions of the mouth and teeth to the dental assistant. The assistant records these, but not in the shorthand of the business world. Instead a unique method known as *charting* is used.

Several methods of charting exist. But all charting methods use drawings and/or symbols to show certain dental conditions. Your study of dental anatomic terminology introduces you to the methods of identifying teeth. Now you must attain a complete working knowledge of each of the tooth numbering systems, cavity classifications, charting methods, and various types of charts. Then you will be prepared to use the method your employer prefers.

The patient's dental chart is considered a legal record, so every effort must be made to avoid error. A completely accurate chart is essential. Only pencil is used in charting, so any mistake can be erased and corrected at once.

No matter what form of charting method you use, remember that charts are designed so that you are looking *into* the patient's mouth. This means that the left side of the patient's mouth is on your right. And the right side of the patient's mouth is on your left. All diagrams have the left and right sides labeled. However, close attention must be given to this detail to avoid mistakes. This pattern of labeling is used whether the teeth are shown in a curve as in a dental arch, or in a straight line as shown on the dental chart.

You will recall from Unit 1 that the mouth is divided into four quadrants (see fig. 1).

Tooth Numbering Systems

When the dentist is dictating, not only does he or she tell the assistant the condition of the tooth, but also which tooth is being observed. Instead of repeating the quadrant and the name of the tooth each time, a number is assigned to each tooth. One of the following numbering systems will be used, depending on where you work and the preference of the doctor you assist.

International Numbering System

This is the most popular numbering system (see fig. 2). The International System is a two-digit numbering system. The first number denotes the quadrant, and the second number denotes the tooth. For *permanent dentition*, the quadrants are numbered from 1 to 4. The teeth are numbered from 1 to 8 in each quadrant, beginning at the midline. For *primary dentition*, the quadrants are numbered from 5 to 8. The teeth are numbered from 1 to 5 in each quadrant, beginning at the midline.

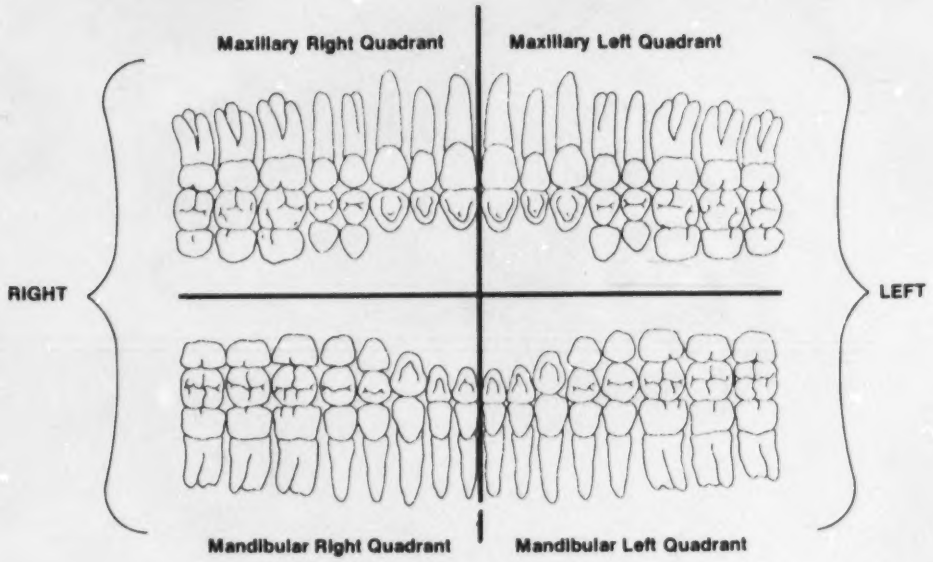


Figure 1.

Universal Numbering System

When using the Universal Numbering System, the permanent teeth are numbered from 1 to 32 (see fig. 3). Numbering starts with the maxillary right third molar and continues around to the maxillary left third molar. The numbers start again with the mandibular left third molar and continue through the mandibular right third molar. The maxillary arch is numbered 1 through 16. The mandibular arch is numbered 17 to 32.

The *primary teeth* are identified by the first 20 letters of the alphabet. Lettering begins with the maxillary right second molar and continues around to the maxillary left second molar. The letters begin again with the mandibular left second molar and continue to the mandibular right second molar. The maxillary arch is lettered A through J. The mandibular arch is lettered K through T.

Symbolic Numbering System (Palmer System)

The Symbolic System is used in writing dental conditions rather than in dictation (see fig. 4). When using the Symbolic System, the *permanent teeth* are numbered from 1 to 8 in each quadrant, starting at the midline and working toward the posterior. The *primary teeth* are lettered from A through E in each quadrant, starting at the midline and working toward the posterior.

The Symbolic System also uses a bracket around each number to show whether a tooth is in the maxillary or mandibular arch and in the left or right quadrant. A line *under* the letter or number shows a tooth in the maxillary arch (Example 1). A line *over* the number or letter shows a tooth in the mandibular arch (Example 2). A vertical line to the *right* of the number or letter denotes the right quadrant (Example 3). A vertical line to the *left* of the number or letter denotes the left quadrant (Example 4).

Examples:

1. $\underline{2}$—maxillary arch
2. $\overline{2}$—mandibular arch
3. 2|—right quadrant
4. |2—left quadrant

Examples:

- $\underline{1|}$ —maxillary right central
- $\overline{1|}$ —mandibular right central
- $\underline{|1}$ —maxillary left central
- $\overline{|1}$ —mandibular left central

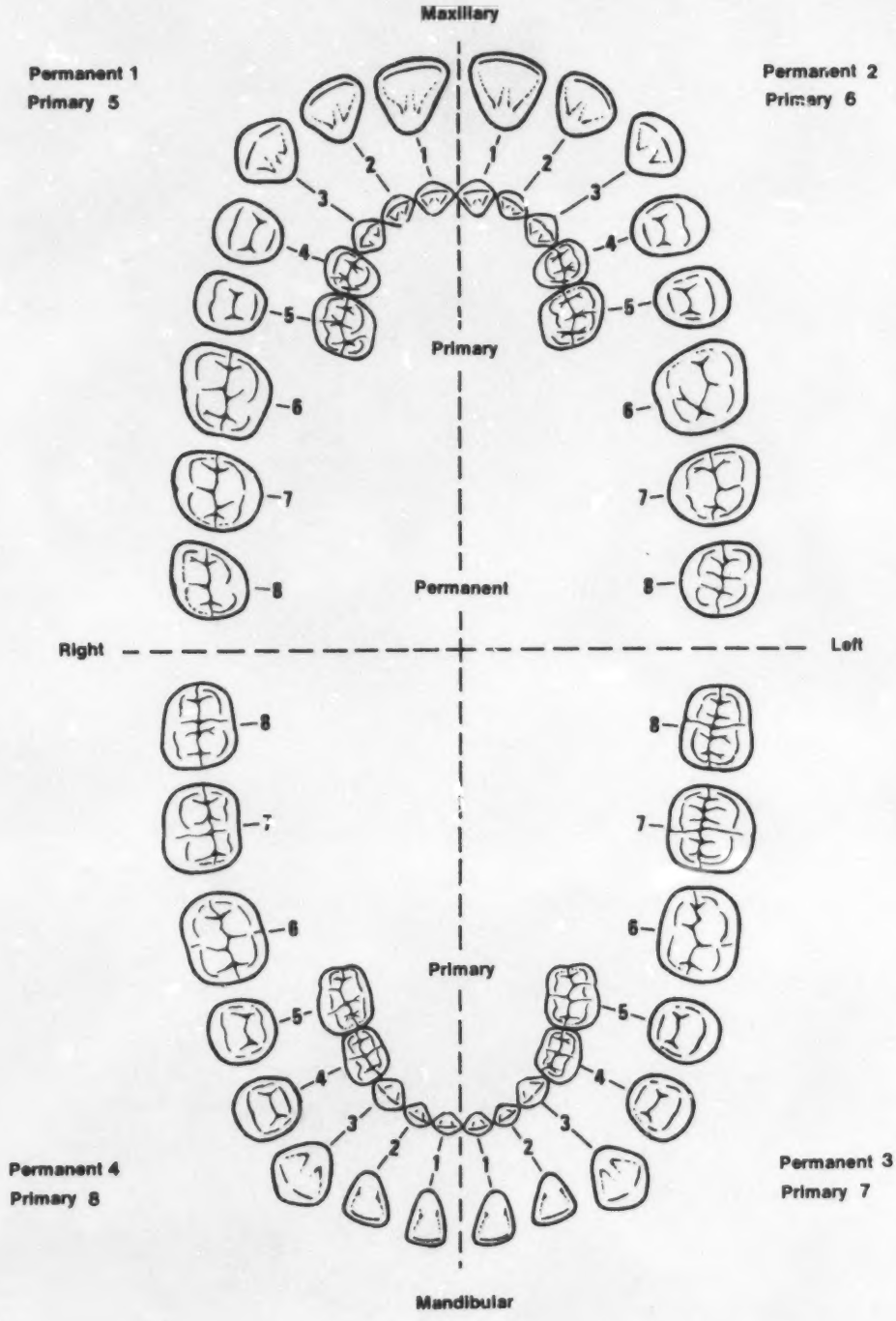


Figure 2. International Tooth Numbering System Examples of *permanent dentition* are # 11, maxillary right central; # 31, mandibular left central. Examples of *primary dentition* are # 61, maxillary left central; # 81, mandibular right central.

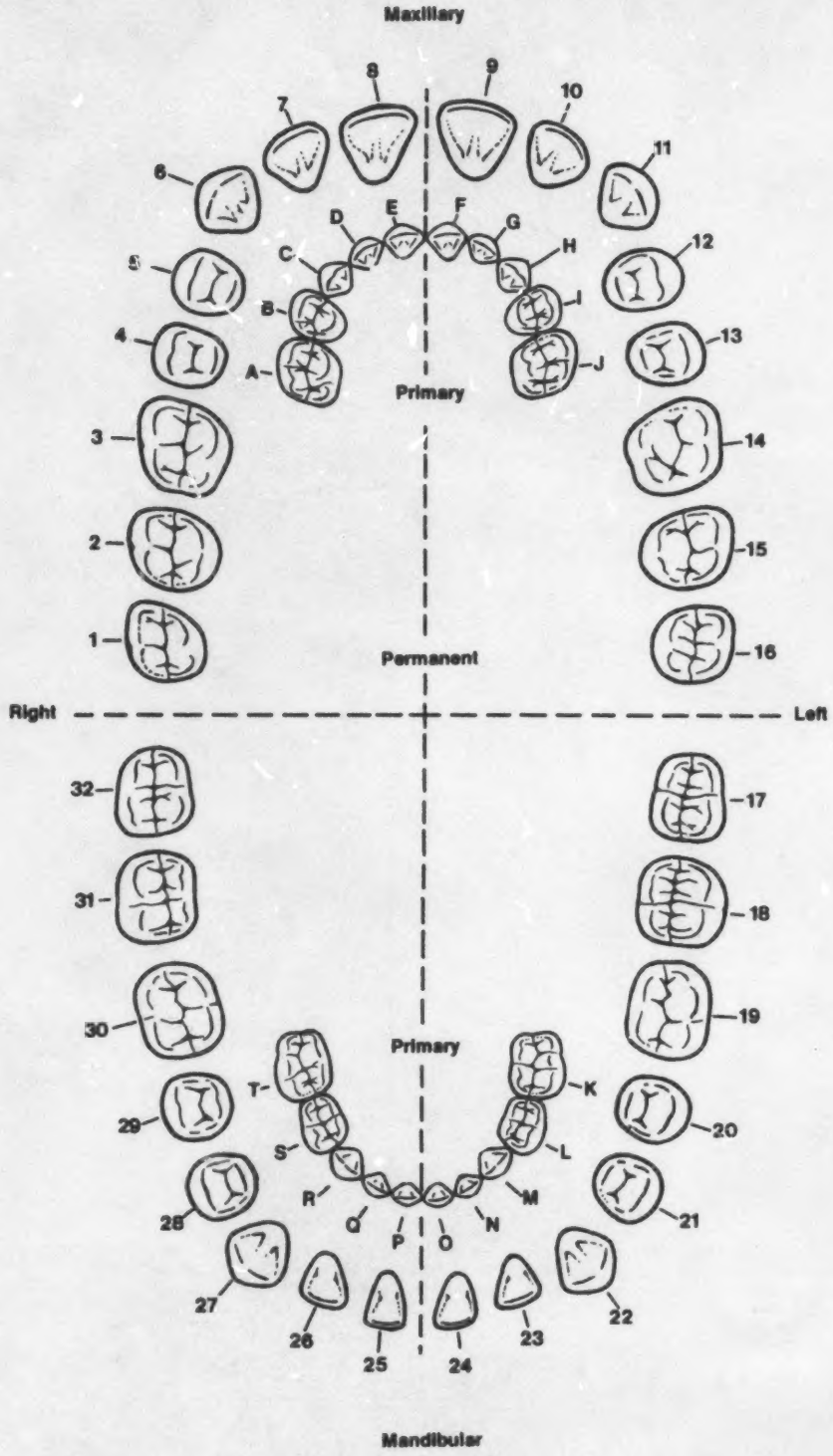


Figure 3. Universal Tooth Numbering System
Examples of *permanent dentition* are #8, maxillary right central; #24, mandibular left central. Examples of *primary dentition* are F, maxillary left central; P, mandibular right central.

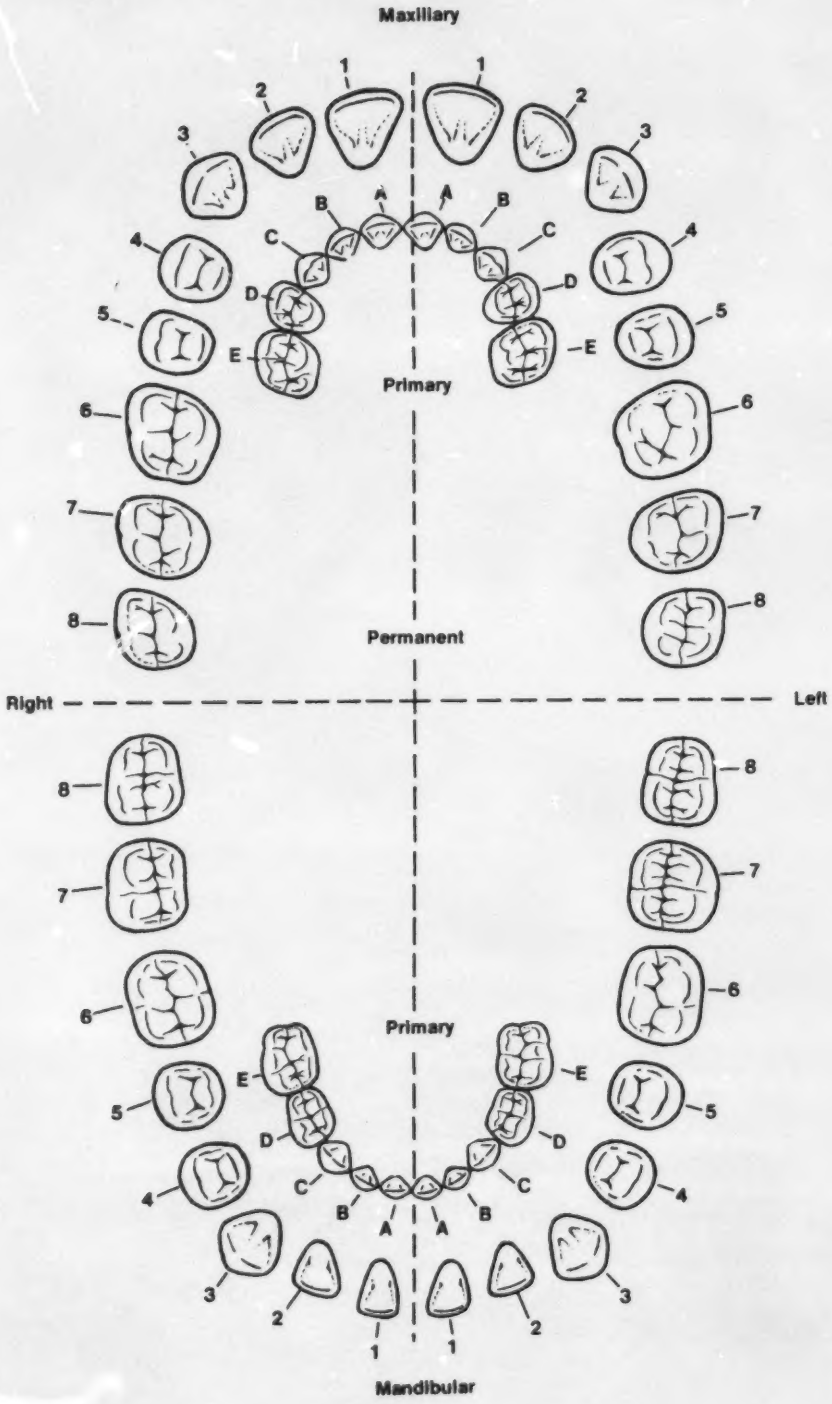


Figure 4. Symbolic (or Palmer) Tooth Numbering System

Dental Diagrams

When charting, the dental assistant uses a diagram of the dental arch. Even though dental arches are curved, they are shown in a straight line. Dental diagrams may be either *anatomic* or *geometric*. Anatomic diagrams look like drawings of the teeth, including the anatomy of the various tooth surfaces (fig. 5A). Geometric diagrams use circles to show the tooth surfaces (fig. 5B).

Although the anatomic and geometric diagrams look different, they are the same in some important respects. Both diagrams show or represent the following tooth surfaces as illustrated in figures 6A–6H:

- posterior teeth (maxillary and mandibular)
  - buccal (fig. 6A)
  - occlusal (fig. 6B)
  - lingual (fig. 6C)
- anterior teeth (maxillary and mandibular)
  - labial (fig. 6D)
  - incisal (fig. 6E)
  - lingual (fig. 6F)
- anterior and posterior teeth
  - mesial (fig. 6G)
  - distal (fig. 6H)

The mesial and distal surfaces are also shown on each diagram (fig. 6A–6H).

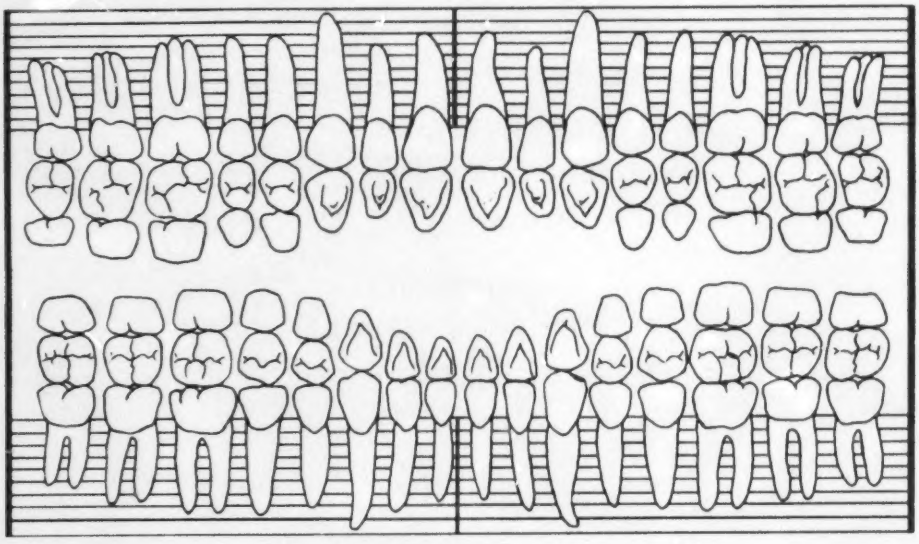


Figure 5A. Anatomic

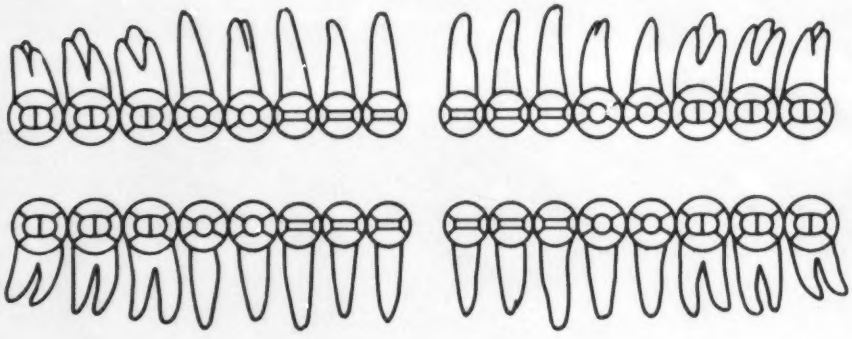


Figure 5B. Geometric

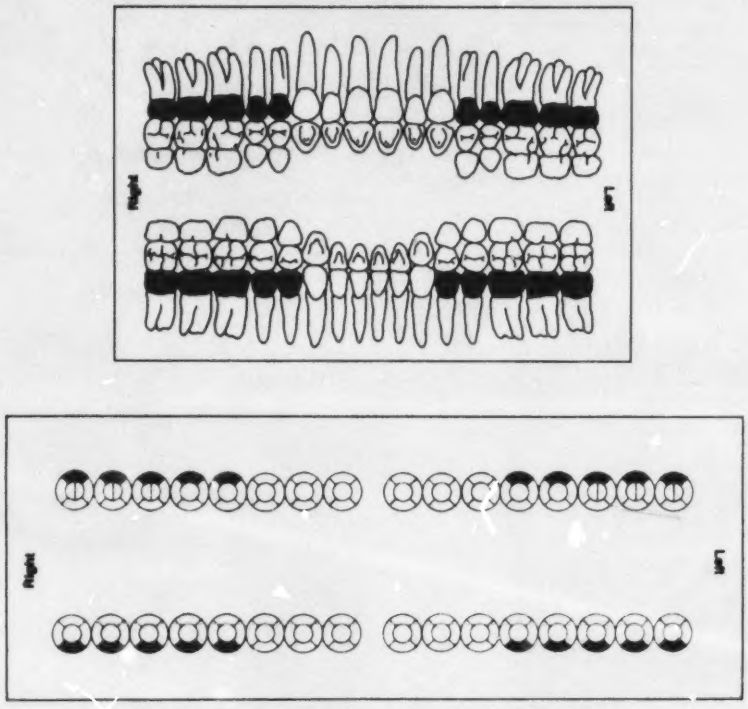


Figure 6A. Posterior Teeth—Buccal Surface
The shaded area is the buccal surface.

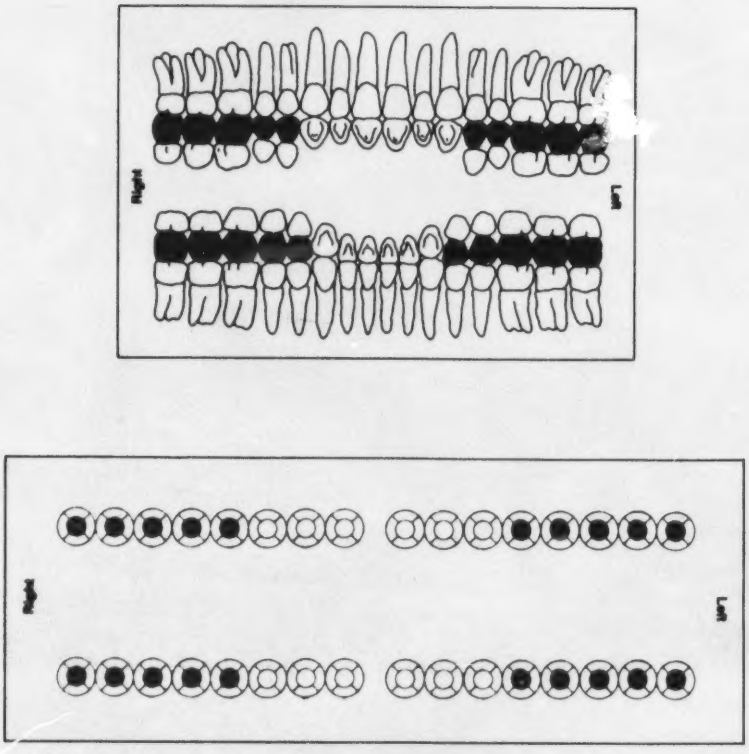


Figure 6B. Posterior Teeth—Occlusal Surface
The shaded is the occlusal surface.

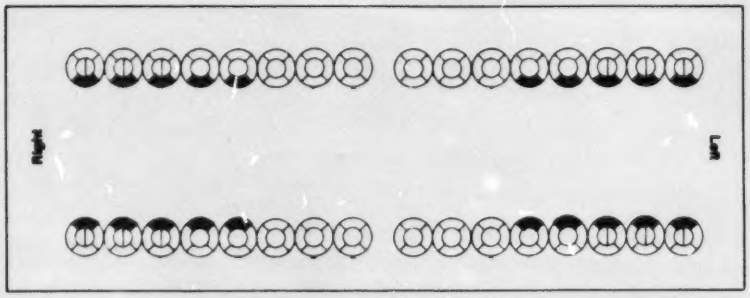


Figure 6C. Posterior Teeth—Lingual Surface
The shaded area is the lingual surface.

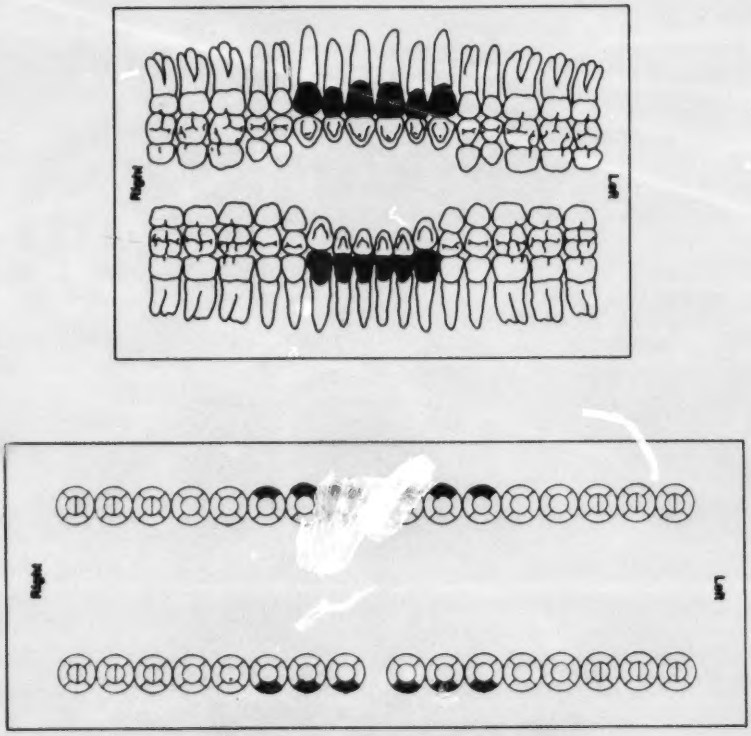
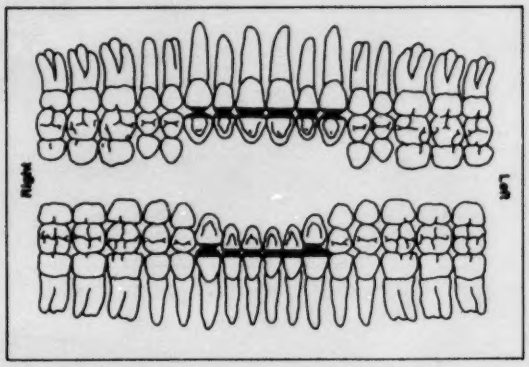


Figure 6D. Anterior Teeth—Labial Surface
The shaded area is the labial surface.



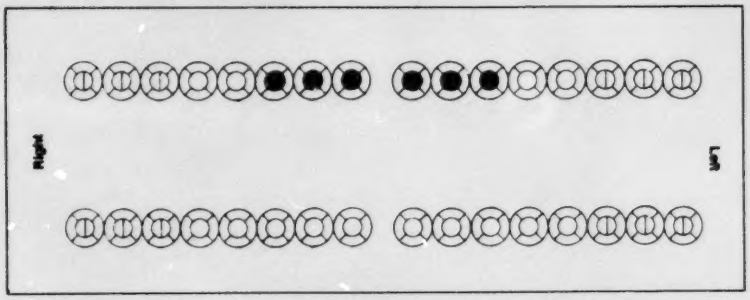
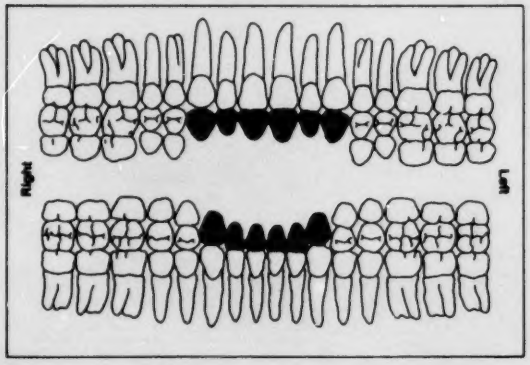
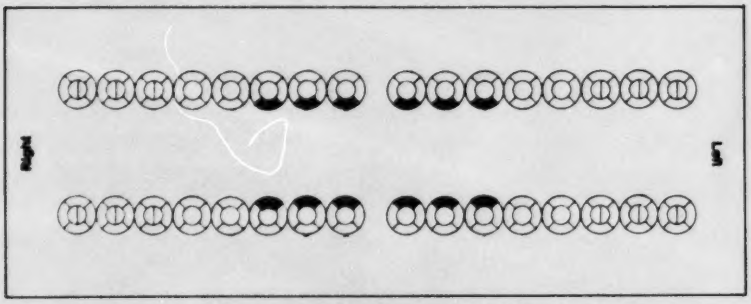
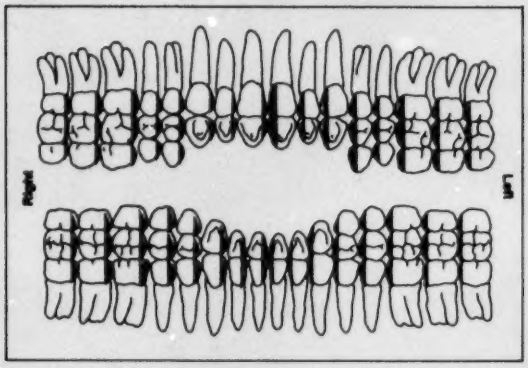


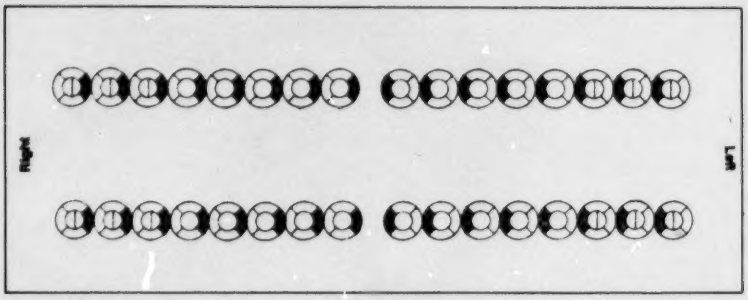
Figure 6E. Anterior Teeth—Incisal Surface
The shaded area is the incisal surface.



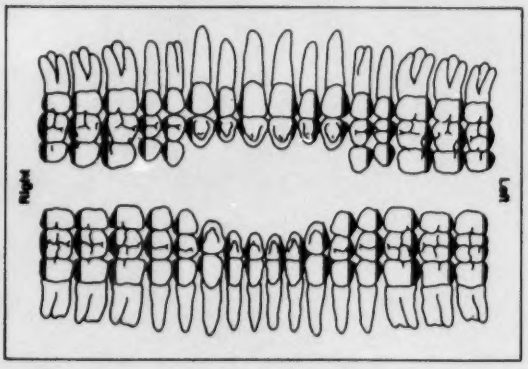


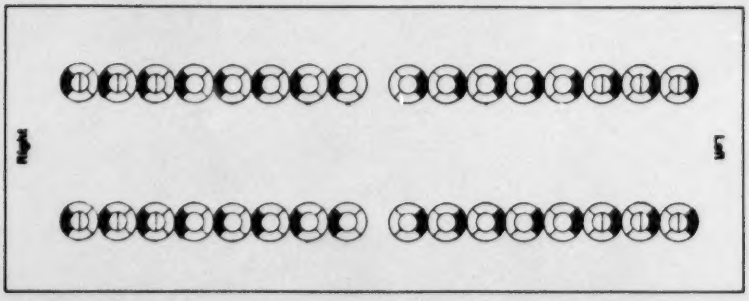
6F. Anterior Teeth—Lingual Surface
The shaded area is the lingual surface.





6G. Anterior and Posterior Teeth—Mesial Surface
The shaded area is the mesial surface.



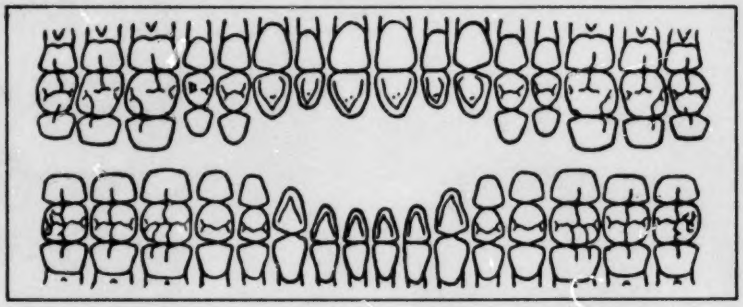


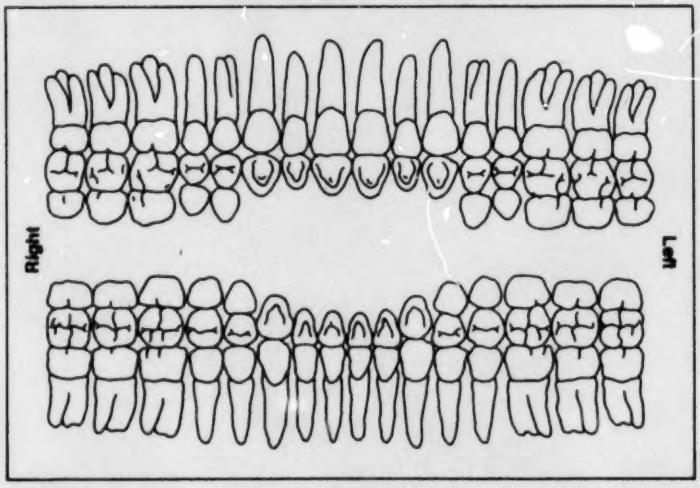
6H. Anterior and Posterior Teeth—Distal Surfaces
The shaded area is the distal surface.

The root area of teeth may be drawn in different ways. Some diagrams show only a part of the root area, some show all of it, and some diagrams show none of it (see figure 7 below).

Primary dentition showing the root area is diagrammed in the same manner as permanent dentition. In some cases, primary dentition is included on the same diagram as the permanent dentition (fig. 8).

Partial Root Area





All of Root Area

None of Root Area

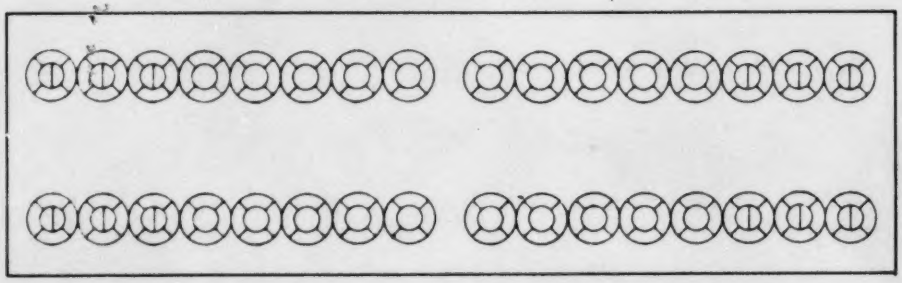
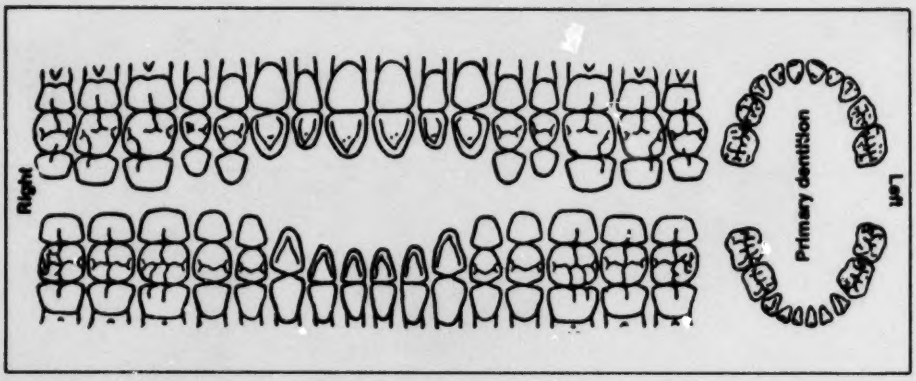
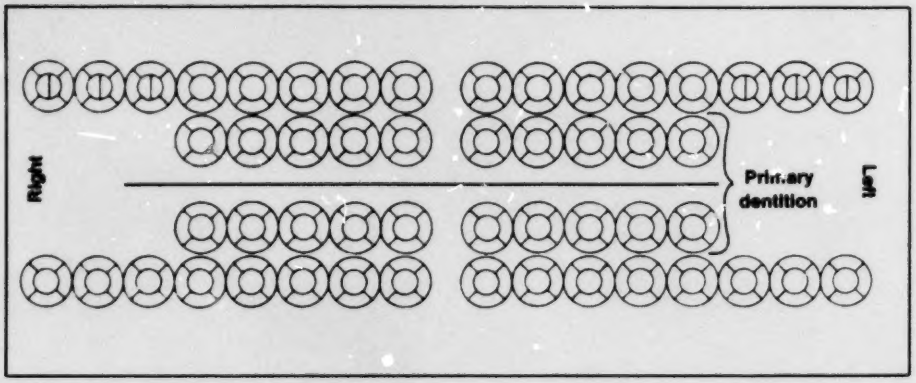
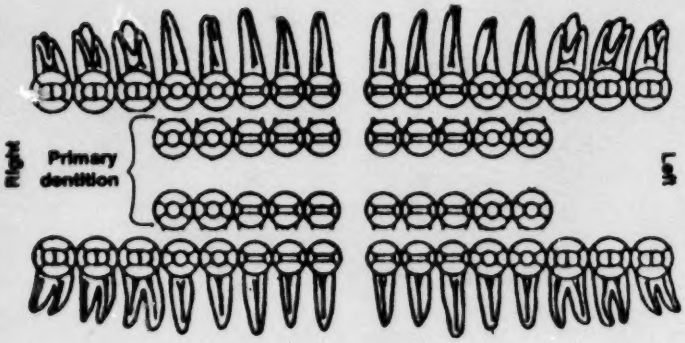


Figure 7.


Right
Primary dentition
Left


Right
Primary dentition
Left


Right
Primary dentition
Left

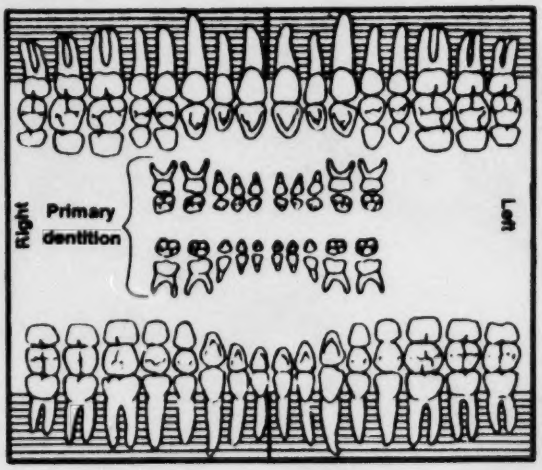

Right
Primary dentition
Left

Figure 8.

Unit THREE

Classification of Caries and Restorations

Objectives: *After completing this unit, you will be able to:*

1. *name the five cavity classifications;*
2. *identify the five cavity classifications on diagrams; and*
3. *write the cavity/restoration classifications from definitions.*

A universal classification system of cavities (caries) and restorations (fillings) is used to simplify the charting procedure. You have already studied the tooth numbering systems used to represent each individual tooth. The doctor will also use a specific classification number instead of naming each surface of the tooth that has decayed or has a restoration. Each class has a specific definition and is diagrammed in a special way. Classifications are written using Roman numerals. We will discuss five classes of cavities and restorations—Class I, Class II, Class III, Class IV, and Class V.

Class I

Class I cavities or restorations involve the occlusal surface of posterior teeth (fig. 1), the pits or grooves on the buccal or lingual surfaces of molars (fig. 2), or the pit on the lingual surface of maxillary incisors (fig. 3). Pits and grooves are indentions in the enamel. Some are caused by decay, others by the normal development of the tooth.

Class II

Class II cavities or restorations involve the occlusal surface and one or both proximal surfaces of posterior teeth (fig. 4).

Class III

Class III cavities or restorations are on the proximal surfaces of anterior teeth, not involving the incisal angle (fig. 5A). The incisal angles are the corners near the biting edge of anterior teeth (fig. 5B).

Class IV

Class IV cavities or restorations are on the proximal surfaces of anterior teeth, involving the incisal angle (fig. 6).

Class V

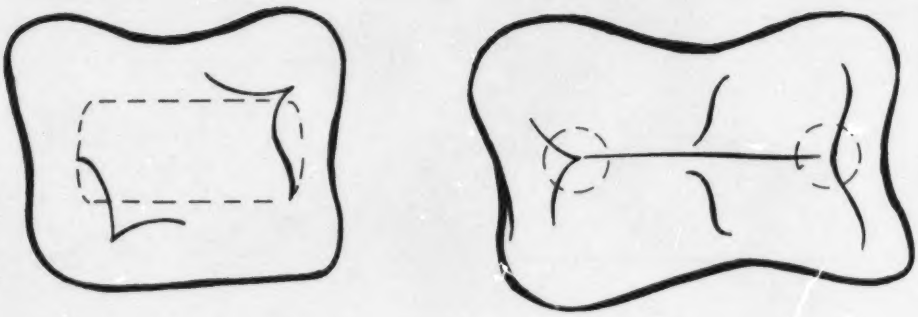
Class V cavities or restorations are near the *gingival line* (gum line) of the facial and lingual surfaces of all teeth (fig. 7).

Sometimes when dealing with classes of cavities/restorations, it is necessary to state which surfaces are involved as well as the class. The most common instance is when you chart a Class II. We know that this class involves the occlusal surface. But we also need to know which of the proximal surfaces are involved. In order to do this easily, each surface name is abbreviated by using only the first letter.

Abbreviations:

M—mesial
D—distal
O—occlusal
B—buccal
L—lingual
F—facial
I—incisal

Molars



Premolars (bicuspid)

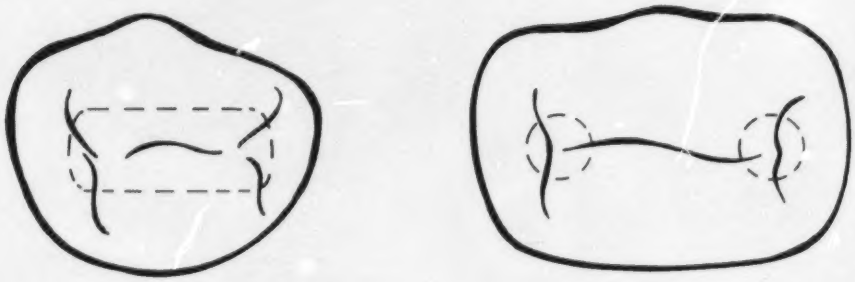


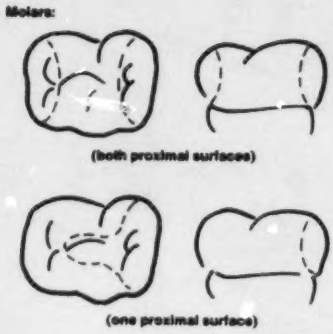
Figure 1. Class I
These are cavities or restorations on the occlusal surface of posterior teeth (shown by broken lines).

Molars: buccal or lingual

Figure 2. Class I
These are cavities or restorations that involve the pits or grooves on the buccal or lingual surfaces of molars (shown by broken lines).

Maxillary incisors: lingual

Figure 3. Class I
These are cavities or restorations that involve the pit on the lingual surface of maxillary incisors (centrals, laterals, and cuspids). These are shown by broken lines.



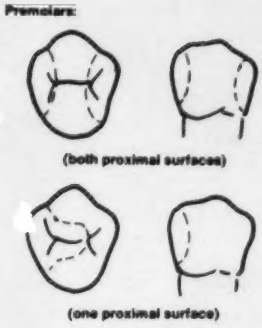


Figure 4. Class II
These are cavities or restorations that involve the occlusal surface and one or both proximal (distal and mesial surfaces of posterior teeth. These are shown by broken lines.

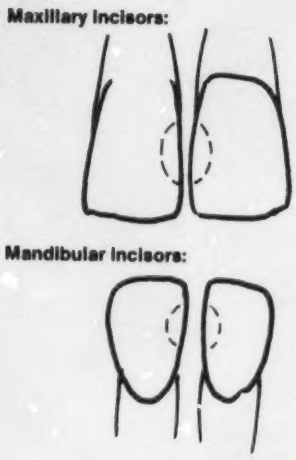


Figure 5A. Class III
These are cavities or restorations on the proximal surfaces of anterior teeth, *not involving* the incisal angle (shown by broken line).

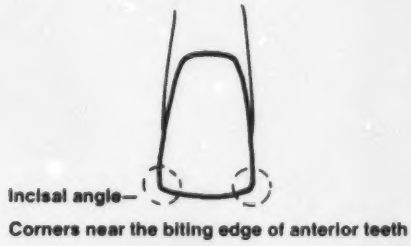


Figure 5B

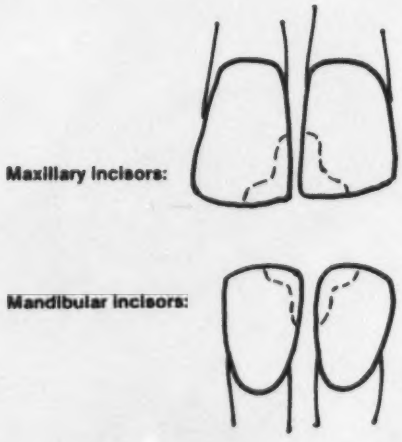


Figure 6. Class IV
These are cavities or restorations on the proximal surfaces of anterior teeth, *involving* the incisal angle (shown by broken lines).

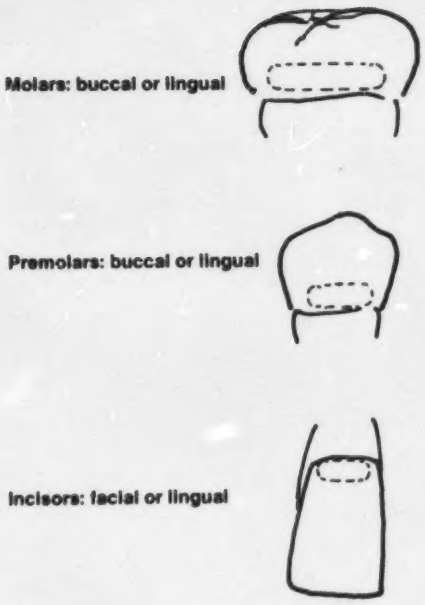


Figure 7. Class V
These are cavities or restorations near the gingival line (gum line) of the facial and lingual surfaces of all teeth (shown by broken lines).

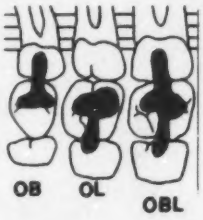
Examples of abbreviations used:

A Class II cavity or restoration that involves the mesio-occlusal surfaces is an *MO*.

A Class II cavity or restoration that involves the disto-occlusal surfaces is a *DO*.

A Class II cavity or restoration that involves the mesio-disto-occlusal surfaces is an *MOD*.

A Class I cavity or restoration that involves the occlusal surface and extends into the groove on the buccal surface is an *OB*. If it extends into the lingual groove, it is an *OL*. And if it extends into both buccal and lingual grooves, it is an OBL. Only *molars* have buccal and lingual grooves.



Cavities and restorations can be classed in yet another manner. This simplified form uses the number of surfaces involved. Cavities or restorations that involve only one surface of the tooth are called *simple*. Examples of a simple cavity or restoration are Class I and Class V. Cavities or restorations that involve two surfaces of a tooth are called *compound*. Examples of a compound cavity or restoration are Class III, Class IV, and some Class IIs. Cavities and restorations that involve three or more surfaces of a tooth are called *complex*. An example of a complex cavity or restoration is Class II.

Unit
FOUR
Charting Symbols

Objectives: *After completing this unit, you will be able to–*

1. *identify the symbols commonly used in charting;*
2. *chart cavities/restorations and other conditions; and*
3. *interpret charting symbols from a completed diagram.*

When the doctor is examining a patient's mouth, the assistant will have to chart conditions other than cavities. Many ailments and injuries occur to the human mouth and teeth, such as infections, broken teeth, missing teeth, and teeth that need to be removed. Restorations such as *root canal fillings, amalgams, composites, porcelain crowns, full gold crowns, three-quarter gold crowns,* and *gold inlays* can correct these disorders. Patients who are missing some or all of their teeth usually have them replaced by a *bridge,* a *partial denture,* or a *full denture.*

All of the conditions listed can be charted using a symbol or drawing. The doctor may use the symbols and methods shown (fig. 1) or similar ones. However, the basic principles for charting are the same. All charting is done in pencil (regular, blue, or red). Charting represents all the surfaces involved. If a restoration involves three surfaces, such as mesial, occlusal, and distal, then all surfaces are marked. If a cavity involves only the mesial surface, then only the mesial is marked.

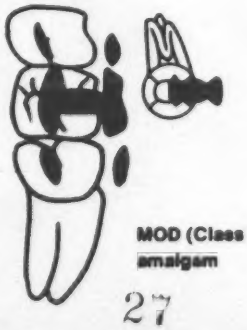
Before continuing with the student work sheets, let's review the charting symbols found in figure 1 on the following page.

Reviewing Charting Symbols

An *amalgam restoration* is the most popular form of filling material used in the replacement of lost tooth structure. It is silver in color. Amalgam is mercury combined with several other metals. When charting amalgam restorations, use a *lead pencil* or a *blue pencil.*

Note: When charting an amalgam restoration, outline the area(s) involved, and then shade them in.

Amalgam restoration



MOD (Class II) amalgam

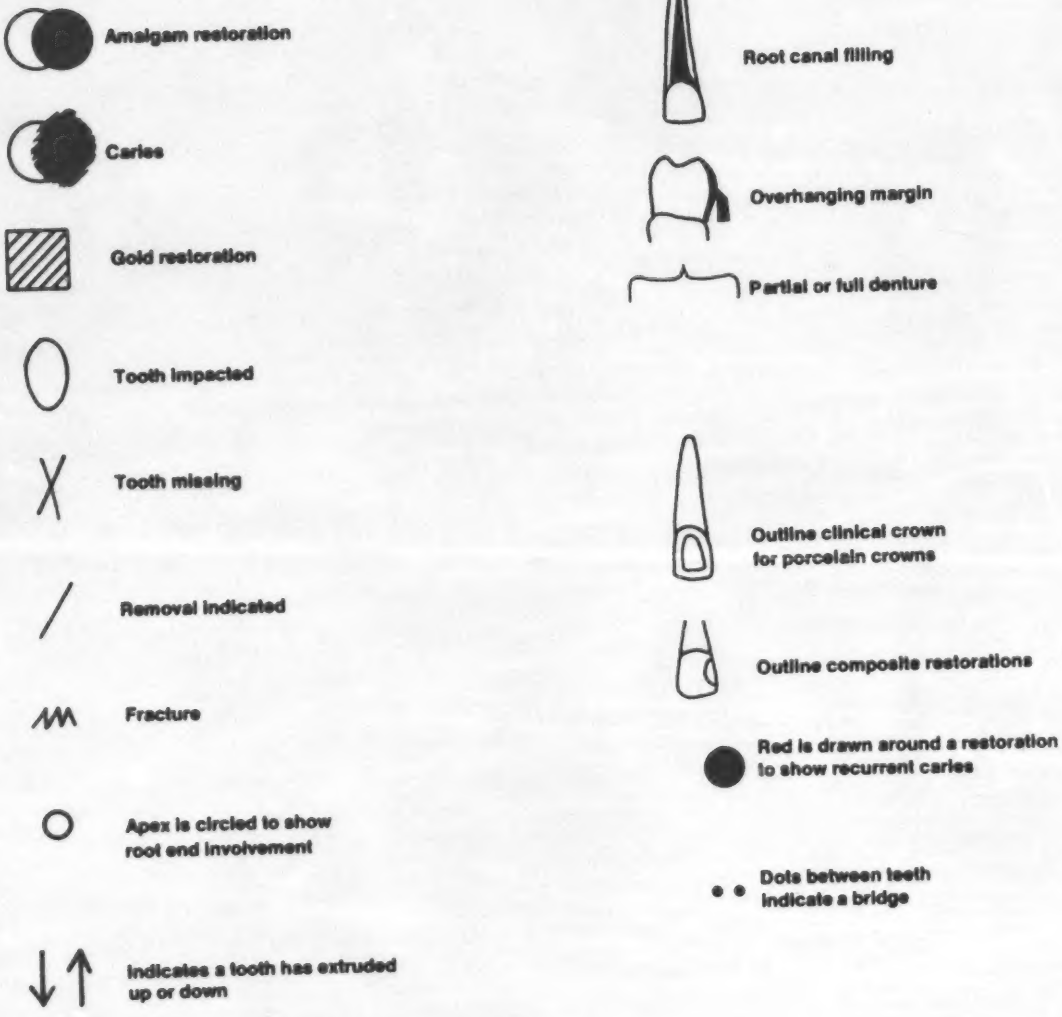
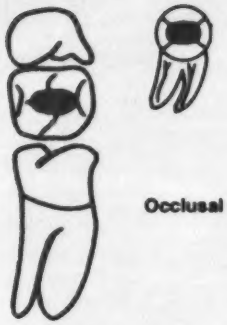

Amalgam restoration
Caries
Gold restoration
Tooth impacted
Tooth missing
Removal indicated
Fracture
Apex is circled to show root end involvement
Indicates a tooth has extruded up or down
Indicates a tooth has drifted front or back
Root canal filling
Overhanging margin
Partial or full denture
Outline clinical crown for porcelain crowns
Outline composite restorations
Red is drawn around a restoration to show recurrent caries
Dots between teeth indicate a bridge

Figure 1. Charting Symbols

Caries

Caries is another word for decay or cavity. Caries are charted in red to call special attention to them.



Occlusal (Class I) caries

Note: When charting caries, outline the area(s) involved, and then color them in.

Gold restoration

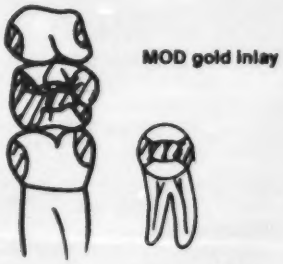
Gold restorations are shown by using slanting lines on all surfaces involved. They are full crowns, ¾ crowns, or inlays.

Full crown

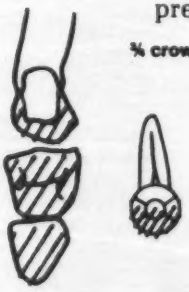
Full crowns cover the entire part of the tooth above the gum line. (This part of the tooth is called the *clinical crown.*)

¾ crown anterior tooth

Three-quarter (¾) crowns cover the lingual, proximal (mesial and distal), and incisal or occlusal surfaces of a tooth. The facial surface of the tooth is not covered. This type of crown is used on maxillary and mandibular anterior teeth and on maxillary premolars.



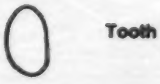
MOD gold inlay



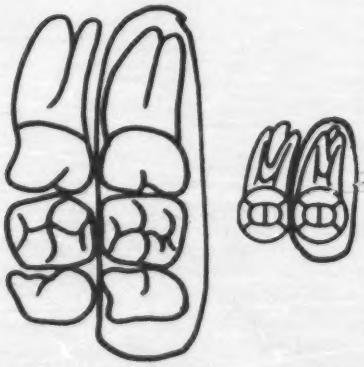
¾ crown premolar

Gold inlays are used on posterior teeth. An inlay may be used when too much tooth structure is missing, and an amalgam restoration cannot be used.

Note: When charting a three-quarter crown or an inlay, outline the area(s) involved, and then make the slanting lines. Each individual gold crown or inlay is considered a *unit* of gold work.



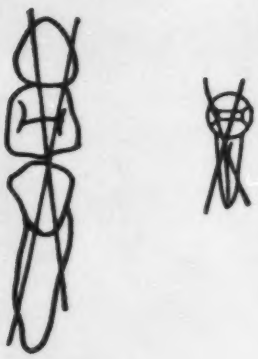
Tooth impacted



Impacted teeth are those that have not erupted. The teeth are encased in tissue or bone. This usually occurs to third molars (wisdom teeth), but can occur with any tooth. Impacted teeth cannot be detected by a visual examination. X-rays are used to show them. Draw a circle around the entire tooth to show that it is impacted.

Tooth missing

During a dental examination, you may see that some teeth are missing. This is either because they were never formed or because they were surgically removed. Place an "X" over the area of missing teeth.

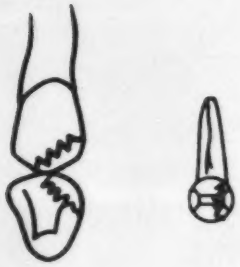


Decay is sometimes so extensive that nothing a dentist does will save a tooth, and it must be removed or extracted. (Use the words "removed" or "extracted," never "pulled.") If a tooth needs to be extracted, draw one diagonal line through it.

Removal indicated

Accidents happen, and sometimes a tooth or teeth are chipped or broken. Because of their position in the mouth, anterior teeth are usually the ones affected. A jagged line is drawn in the area of the fracture.

Fracture



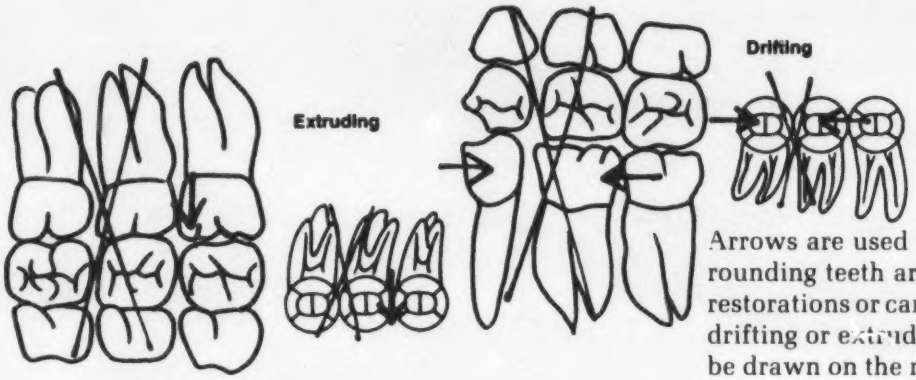
Often teeth are removed, but not replaced. Then the opposing and surrounding teeth try to fill in the space created. A maxillary tooth will move out of its socket downward, and a mandibular tooth will move upward. This movement is called *extrusion*. Teeth located mesial and distal to the space will begin to tilt or drift front or back.

Indicates a tooth has extruded up or down

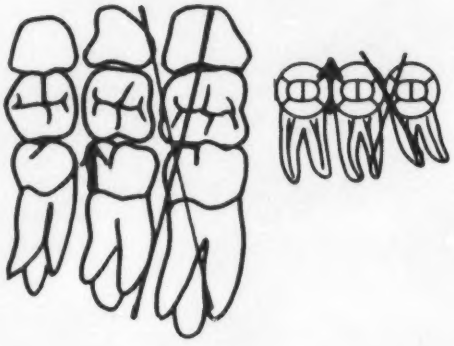
Indicates a tooth has drifted front or back

Teeth can sometimes become infected due to injury or decay. When this infection spreads through the root(s), it forms an *abscess* (a localized collection of pus) at the apex of the root. An abscess is detected by an X-ray. Chart it as a small circle at the end of the root involved.

Apex is circled to show root end involvement



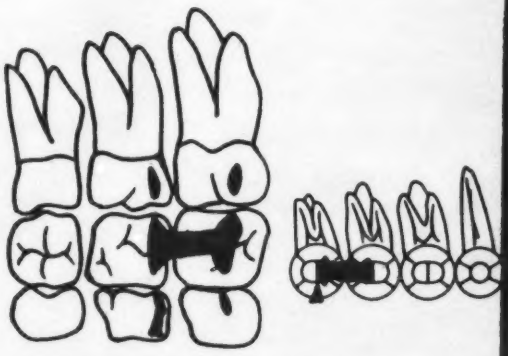
Arrows are used to show whether the surrounding teeth are drifting or extruding. If restorations or caries are also charted on the drifting or extruding teeth, the arrows may be drawn on the root area of the tooth.



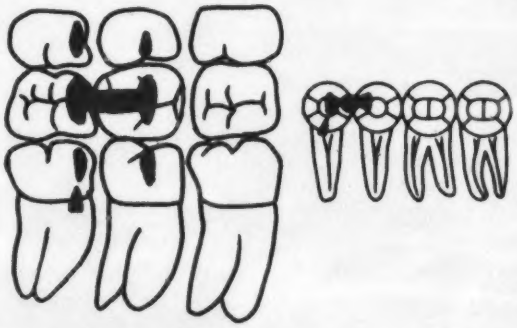
Restorative materials such as amalgams sometimes expand. Some composite restorations may wash out. Such changes tend to leave rough, jagged, or overhanging *margins*. A margin is the area where the tooth and restoration meet. Overhanging margins cause dental floss to tear and may entrap food particles. Chart an overhanging margin by placing a shaded-in triangle either on the lingual or buccal surface.

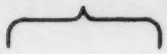
Decay, when left untreated, will spread and affect the nerves and blood supply in the roots of a tooth. When this happens, the infected tissue in the root is removed and replaced with other materials. This procedure is called *endodontics* (root canal). The materials used are silver points and a tough, plastic resin called *gutta percha*. The need for endodontic therapy can be detected by an X-ray. The diseased root or roots will look white in the X-ray picture. On the dental chart, show this procedure by shading in a portion of the root.

Overhanging margin

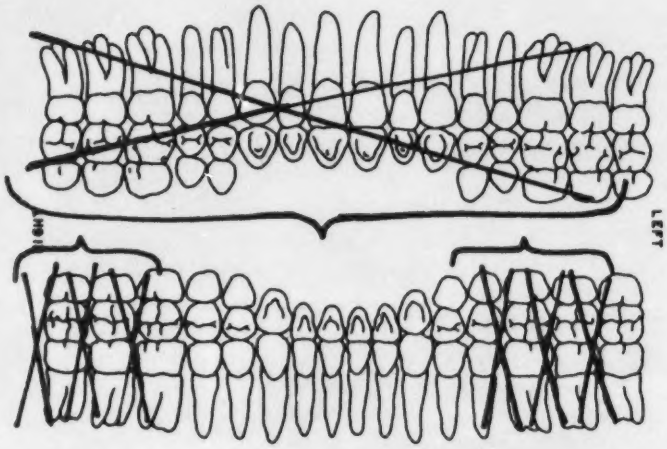

Overhanging margin on the lingual

Root canal filling


Overhanging margin on the buccal

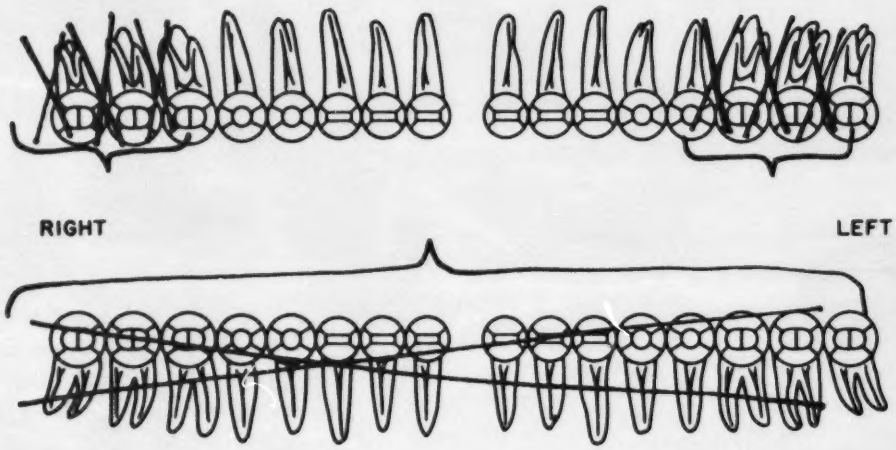


Partial or full denture



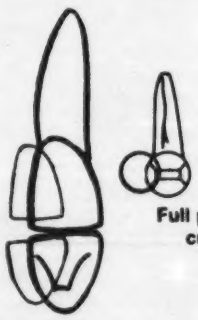
Upper full denture/lower partial denture

If all of the teeth in an arch are missing, an "X" is placed through the entire arch. A bracket is drawn along the lingual surface to show a full denture. Sometimes a patient will be missing two or three teeth on each side of an arch. These may be replaced by a partial denture. Chart a partial denture by placing an "X" over each missing tooth. Then draw a bracket along the lingual surface of each group of missing teeth.



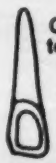
Upper partial denture/lower full denture

Porcelain material is made to look like natural tooth structure. When an anterior tooth needs a full crown, it is usually made of porcelain. The crown can be porcelain on the facial as well as on the lingual surface. This is called a *full porcelain* crown. A crown can also have porcelain on the facial surface and gold on the remaining surfaces. This is called a *porcelain-faced crown*. Porcelain-faced crowns are often used on premolars. Chart a porcelain crown by outlining the surfaces involved.



Full porcelain crown

Porcelain-faced crown



Outline crown of tooth to show porcelain crown

Class III composite on the distal

Class IV composite on the mesial

Composite restorative materials, such as porcelain, are tooth colored. They are used mainly on anterior teeth. Outline composite restorations on the surfaces involved.

● ● Dots between teeth indicate a bridge

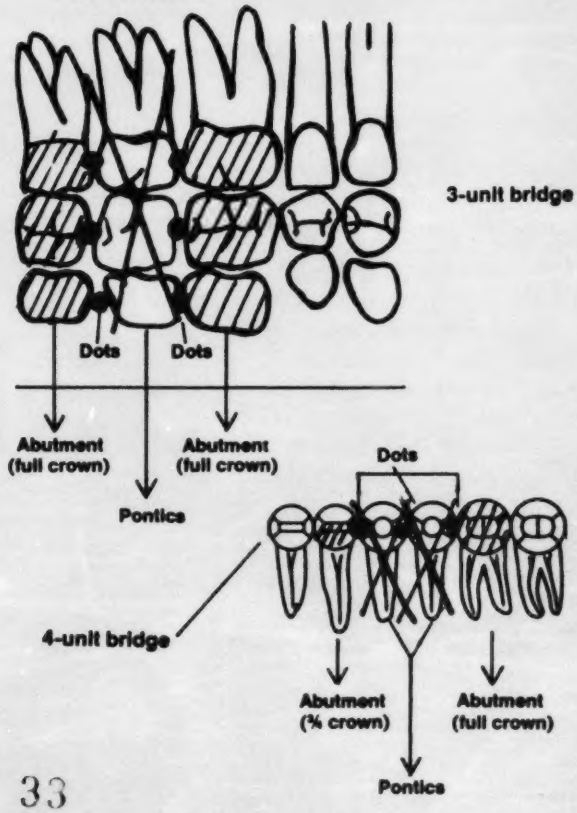
When two or three adjacent teeth are missing (and none is the last tooth in that arch), a bridge is used to fill the space. The missing teeth are replaced by artificial teeth called *pontics*. The teeth that the pontics are attached to are called *abutments*. Each tooth (pontic and abutment) in a bridge is considered a unit of gold work. For example, if there are one pontic and two abutments, it is considered a three-unit bridge. Pontics are usually solid gold crowns or gold crowns with tooth-colored facial surfaces. These surfaces may be made of porcelain or acrylic. Chart bridges by placing an "X" over the missing teeth, diagram the crowns, and place dots between all pontics and abutments.

Poor oral hygiene habits may result in caries forming around a restoration. To chart this condition, shade in the existing restoration, and then outline it in red.

Outline composite restorations

Class III composite with recurrent caries

Class II amalgam with recurrent caries



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